

# The Need for Uniformity

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The *Manual on Uniform Traffic Control Devices* and the *Unabridged Dictionary of the English Language* are two books that have very much in common. Both of these books define a language, a means of communicating information.

Some people expect control devices to control traffic. The fact is, however, that there are no “control” systems for traffic. We have information systems. A red traffic signal or a red “Stop” sign has never stopped a car. Each gives information to the driver that he should stop his car. The manual defines the vocabulary in which traffic signals and other traffic devices communicate information to the motorist or to the pedestrian.

The fact that many words have double or ambiguous meanings is the basis of all puns and many jokes. On highways, however, double meanings are not a joke. The driver must get information, get it fast and get it right.

There is another parallel between the manual and the dictionary. The 1962 dictionary contains many words or meanings that were not in the 1940 edition, which I used in college. The language in this dictionary has evolved to meet the needs of our times. This may be at least the 35th edition of this dictionary since Dr. Samuel Johnson wrote the first *Uniform Manual of the English Language* in 1755. Similarly, this *Manual on Uniform Traffic Control Devices* has evolved.

The first version of the manual was written 40 years ago and it too has been periodically revised. It has continued to evolve to meet new needs, and it has evolved sensibly from experience and research. *What Is Uniformity*

“Uniformity in traffic laws and regulations was emphatically urged by the President’s Highway Safety Conference held in Washington, D.C., in 1946 and is widely recognized as one of the most important objectives in the program to reduce accidents and facilitate the orderly flow of traffic.”

That sentence is the opening sentence of the Introduction to the 1948 edition of the *Manual on Uniform Traffic Control Devices* for

*Streets and Highways* and is just as true today as it was when written. Furthermore, it presents an indication of the time period that has passed since serious effort to obtain uniformity of traffic signs, signals, markings and rules of the road throughout the United States was initiated. The manual, first produced in 1935; the *Uniform Vehicle Code*, first published in 1926; and the *Model Traffic Ordinance for Municipalities*, also formulated in 1926, have been available to all units of government as guides to achieving uniformity for over 20 years. But many units of government do not yet use uniform traffic control devices or have uniform laws.

The *Uniform Vehicle Code* states in regard to uniformity “. . . rules of the road—the things that drivers and pedestrians shall and shall not do when on the public highway. If the public is to understand, remember and observe these rules in interstate travel, they should be exactly the same, word for word, in every state. . . . The language of the code has been tested by long experience and there is no need for deviation. . . .” and that “. . . safe, efficient highway transportation requires, in every state, adequate statutory coverage of not merely one but all of the subjects included in the *Uniform Vehicle Code*.”

The *Manual on Uniform Traffic Control Devices for Streets and Highways* is an essential part of the uniformity plan, and it was specifically recommended for adoption by the previously mentioned President's Highway Safety Conference as long ago as 1946. This manual includes recommended standards for uniformity of design, location or position, and application. All three are extremely important.

Uniformity in signs, signals, markings and rules of the road, therefore, means that within the United States substantial uniformity in (1) meaning (2) design (3) location, and (4) application of signs, signals and markings must be obtained within and between states before the objective, uniformity, is reached. Adequate legislative provisions within each state must be present to give the uniform meaning to traffic control devices. This requires that the legislative acts of each state be in conformity with the *Motor Vehicle Code* and that the regulations of municipalities be in conformity with the *Model Traffic Ordinance for Municipalities*.

Uniformity in design, location and application requires that each state have a *Manual for Uniform Traffic Control Devices* which is in conformity with the national manual and Indiana does have such a manual. Uniformity also means that adherence to its provisions be required of everyone placing signs, signals and markings; and that their use be based on sound engineering principles and established by

factual studies. The latter requirement is just as important as the others.

### *Has Uniformity Been Achieved*

The answer to this question in the midwestern area is clearly no. Progress toward uniformity has undoubtedly been made, but a great lack of uniformity still exists both within states and between states. And after a period of 20-30 years of trying to achieve uniformity, this is not a compliment.

As an example let's look at the most important of all signs—the "Stop" sign. The only standard "Stop" sign according to the uniform manual is the red with white letters, octagon-shaped sign with no message other than "Stop" permitted. This has been true since 1954—12 years ago. Many have seen some yellow stop signs this year. The color red was chosen for stop signs and reserved for stop signs because of its natural communication of danger and its ability to attract attention. It was given this special shape and special color because it is extremely important that every motorist who should see a "Stop" sign does see it. But 12 years later a substantial number of these yellow signs are still found—signs which may not be seen by some motorist who should see them.

### *Requirements of Traffic Control Devices*

To clearly understand why uniformity is necessary one must also be familiar with the requirements of traffic control devices. These requirements are well-stated in the manual and are quoted in the following paragraphs.

"Any traffic control device should meet five elementary requirements:

1. It should be capable of fulfilling an important need.
2. It should command attention.
3. It should convey a clear, simple meaning.
4. It should command respect of road users.
5. It should be located to give adequate time for response.

"In addition, devices which control or regulate traffic must be sanctioned by law.

"Four basic considerations are employed to insure that these requirements are met. They are: design, placement, maintenance, and uniformity.

"Design of the device must assure that such features as size, contrast, colors, shape, composition, and lighting or reflectorization where needed, are combined to draw attention to the device; that

shape, size, colors, and simplicity of message combine to produce a clear meaning; that legibility and size combine with placement to permit adequate time for response; and that uniformity, reasonableness, size and legibility combine to command respect.

"Placement of the device must assure that it is within the cone of vision of the normal user so that it will command attention; that it is positioned with respect to the point, object, or situation to which it applies to aid in conveying the proper meaning; and that its location, combined with suitable legibility, is such that a driver traveling at normal speed has adequate time to make the proper response.

"Maintenance of devices must be to high standards to assure the legibility is retained, that the device is visible, and that it is removed if no longer needed. Clean, legible, properly mounted devices in good working condition command respect. They have a business-like appearance that implies that they are official and enforced—thus earning the respect of motorists. In addition to physical maintenance, functional maintenance is required to keep traffic control devices current. The fact that a device is in good physical condition should not be a basis for deferring needed replacement or change. A device must be functionally sound or it has outlived its usefulness. Furthermore, carelessly executed maintenance can destroy the value of a group of devices by throwing them out of balance. For example, replacement of a sign in a group or series by one that is disproportionately large may tend to depreciate others in the vicinity; maintenance must be functional as well as physical to guard against such occurrences.

"Uniformity of traffic control devices simplifies the task of the road user because it aids in instant recognition and understanding. It aids police courts and road users by giving everyone the same interpretation. It aids the public highway and traffic officials through economy in manufacture, installation, maintenance and administration.

"Simply stated, uniformity means treating similar situations in the same way. The use of uniform traffic control devices does not, in itself, constitute uniformity. In fact, using a standard device where it is not appropriate is as objectionable as using a non-standard device."

The second step toward uniformity then is the proper installation of all, and not a one more, of the traffic control devices which are warranted. The manual outlines in some detail the basic principles that govern the design and usage of traffic control devices, but the

decision regarding actual installation must be based on a thorough and accurate engineering study. Uniformity will not be established if the installation of traffic control devices is in the hands of untrained, incompetent persons. There is ample evidence of a high correlation between the amount of uniformity achieved in an area and the engineering competency of those charged with traffic operation responsibilities. Both engineering judgment and imaginative application are essential to true uniformity.

### *Uniformity of Control at Intersections*

Any aspect of uniformity could logically follow the discussion which has occurred to this point, but one important area of traffic control devices has been selected for further discussion. This area is intersection control. Here are locations at which two conflicting movements use the same right-of-way and unless controlled, two or more moving vehicles may try to use it at the same time. If simultaneous use does occur an accident is the result. Inasmuch as control of such conflicting movements attempts to prevent simultaneous use, one measure of the efficiency of a control would be the accident history of the intersection under the control. Such a measure, however, is not adequate, for the purpose of highways is to move traffic and the effect of conflict on the movement through the intersection must also be given a lot of weight in any efficiency measurement.

The common and standard controls used at highway intersections are the basic right-of-way rule, the "Yield" sign, the "Stop" sign, and the traffic signal. All four have their place and it is almost certain that almost every county in this country should be using all four of these means of control. The basic right-of-way rule, the meaning of the various phases of a traffic signal and the meaning of a "Stop" or "Yield" sign should be the same everywhere—for they demand of the motorist that he must do certain things—but they are not.

One of the aspects of increasing traffic has been the tendency for many units of local government to rely on petitions and public pressure to determine the type of control which should be placed at an intersection. The result has too often been that inadequate control is in place at some locations while uneconomical, inefficient—and even unsafe—control is present at others. The proper control at an intersection can only be determined by a complete engineering study of the intersection and its location, volumes, speeds, sight distance, accident experience, delays, etc. The analysis of such a study at an intersection offers the probability of permitting the wisest decision as to the most efficient and safest means of control.

It is not true that a traffic signal will always reduce the accidents at an intersection—it may even result in more accidents. It is not true that delay will be reduced if a “Stop” sign is replaced by a traffic signal—it may be substantially increased. It is not true that a “Stop” sign should be installed on at least one of every two intersecting roads, installation of any controls beyond the use of the basic right-of-way rule at low volume intersections with good visibility in all directions may breed disrespect for “Stop” signs and cause them to lose their significance everywhere. It just is not possible to guess, judge, or determine by vote or public opinion the best control at an intersection. An engineering study is necessary and because every intersection must be controlled properly it is a responsibility of those charged with traffic control to make such an engineering study for every intersection and to continue making them as conditions change.

At high volume intersections where traffic signal control is best, the selection of the proper equipment and the proper installation of that equipment are also necessary. One cannot cover these two areas adequately in a few words at this time for they involve complex and detailed considerations. Signal selection and installation, however, should also be done by competent persons and of course must be uniform. The aspects of uniformity—uniform meaning, design, placement and maintenance—are also of major importance for traffic signals as they require motorists to perform responsible actions quickly and safely. The uniform manual has many pages devoted to traffic signals, including requirements for three faces—green, amber, and red—alignment, turn arrows, meaning, location of signals, and minimum warrants for their use. The use of the manual is strongly recommended.

### *Conclusion*

No community, rural or urban, needs to accept traffic congestion and many accidents. The application of sound traffic engineering to these problems has many times improved traffic flow and reduced accidents. One of the tools most used by the traffic engineer in the *Manual on Uniform Traffic Control Devices for Streets and Highways*. He has found it to be very useful in moving traffic smoothly, expeditiously, and safely. Its full use is recommended to you. Study it, use it; make it your guide. Uniformity in your county or your community is important and you as a county engineer or official have the responsibility of seeing that it is accomplished. Every motorist needs it, yes deserves it. We have fully accepted the dictionary—the manual of the English language. We must also accept the dictionary of traffic control, the *Manual on Uniform Traffic Control Devices*, and it must be used.